

SOLUTIONS MATRIX

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PROBLEMS SOLUTIONS	Solution s Time to Impact	Short- term Supply and Price Spikes	Long-term Supply and Price Increases	Depletion of Petroleum Resources	Lack of Energy Diversity; Transportation Nearly 100% Dependent on Petroleum; Transition to Diverse Sources	Global Climate Change	Adverse Health, Environmental and Other Effects (Air and Water Quality)	Growth in Transportation Energy Demand (VMT and overall)	Congestion and Land Use Patterns	Consumer Response/ Market Behavior
A. PETROLEUM SUPPLY POLICIES										
1. Provide incentives for advanced/efficient technologies for oil drilling, production and refining processes.	S M	+	+				-	-		-
2. Establish a State Petroleum Reserve	S	+	+		-		?	?	-	-
3. Construct new pipelines for fuel delivery	S M	+	+		-		?	?	-	?
4. Allow non-compliant fuel to be sold in California for short periods	S	-	-		-		-	-		-
5. Provide State financing, or provide other incentives for refinery expand capacity in California or elsewhere.	S M	+	+		-		-	?		?
6. Establish Collaborative Strategies to Develop Energy/Oil Supplies in Mexico	M L	+	+		-		?	?		?
7. Eliminate or temporarily suspend fuel tax on gasoline and diesel sales	S	+			-		?	-	-	+
8. Exempt refinery expansion/new facilities from environmental requirements	S M	+	+		-		-	-	-	+
9. State Investment or incentives in Petroleum Feedstock Facilities in California or elsewhere	S M	+	+		-		-	-	?	+
10. Seek temporary relief from the Jones Act limits on use of only U.S. flagships to reduce the cost of importing refined fuels	S	+			-					
11. Fuel production allocation system; Limit pulls from terminals to prevent run on the racks.	S	+	-		-			?		+

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12. Redefine specification for minimum octane levels in Premium Gasoline Octane level to 90 or 91.	S	+	+		-					
13. Own or finance a California Refinery to increase fuel production capability.	M	+	+		-					
14. Adopt regional or national fuel specifications for diesel and gasoline.	S M	+	+		-		-	-	-	+
15. Study the feasibility of state level authority for permitting refinery, pipeline and terminal expansions.	M L		?		-		+	?	?	?
16. Study the potential benefits of low sulfur fuels from gas-to-liquid sources.	M L		+		-		?	?		?
17. Open offshore coastal areas and other environmentally sensitive areas to energy development	M L		+		-		-	?		?
B. FUEL USE EFFICIENCY POLICIES										
<i>Motor Vehicle Efficiency</i>										
1. Co-sponsor vehicle efficiency technology research, development, demonstration & commercialization. Example technology areas: Engine/drivetrain (incl. Otto Cycle, diesel, lean-burn, hybrid electric) Materials Aerodynamics Tires & Accessories	M L		+	+		+	+	+	-	
2. Pursue state regulation of vehicle fuel economy	L		+	+		+	+	+	-	

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3. Implement state financial incentives for purchase of efficient vehicles	M L		+	+		+	+	+	-	
4. Implement fee/rebate program to encourage purchase of efficient vehicles	M L		+	+		+	+	+	-	+
5. Implement non-financial incentives for efficient vehicles (e.g., use of HOV lanes, parking, etc.)	M L		+	+		+	+	+	-	+
6. Acquire high efficiency vehicles for State fleets	S M L		+	+		+	+	+		+
7. Support higher federal fuel economy standards	L		+	+		+	+	+	-	+
8. Improve vehicle fuel efficiency labeling & consumer education	S M L		+	+		+	+	+	-	+
9. Undertake new technology-based efficiency initiative to foster application of efficiency-improving technologies. Adapt experience of State s approach to appliance & building efficiency standards	L		+	+		+	+	+	-	+
10. Expand gas-guzzler tax on low fuel economy vehicles	S M L		+	+		+	+	+	-	+
11. Explore approaches to improving heavy-duty vehicle efficiency	M L		+	+		+	+	+		+
Transportation System Efficiency										
1. Expand fuel-efficient traffic signal timing	M L		+	+		+	+	+	+	+
2. Expand HOV lanes	M L									
3. Expand driver advisory network for travel planning	S M L		+	+		+	+	+	+	+

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4. Develop intelligent/automated highway system technology	L		+	+		+	+	+	+	+
5. Explore potential for improved transit system energy efficiency	M L		+	+		+	+	+	+	
6. Explore potential for efficiency improvements in fuel extraction, processing and distribution cycles for all conventional and alternative fuels	S M L		+			+	+		-	
<i>Travel Activity</i>										
1. Promote alternative work and school schedules	S M L		+	+		+	+	+	+	+
2. Encourage voluntary conservation measures (incl. education & outreach)	S M L		+	+		+	+	+	+	
3. Implement expanded telecommuting and other telecommunications	S M L		+	+		+	+	+	+	+
4. Eliminate transit fares	S M L		+	+		+	+	+	+	+
5. Increase parking fees	S M L		+	+		+	+	+	+	-
6. Reduce & enforce speed limits	S M L		+	+		+	+	+		-
7. Eliminate bridge tolls	S M L		+	+		+	+	+		+
8. Implement tollways with time-of-use pricing	M L		+	+		+	+	+	+	
9. Increase fuel taxes	S M L		+	+		+	+	+	+	-
10. Implement Vehicle-Miles-Traveled (VMT) tax	M L		+	+		+	+	+	+	-

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11. Implement pay-at-the pump auto insurance	M L		+	+		+	+	+	+	
12. Expand carpooling & vanpooling	S M L		+	+		+	+	+	+	
C. FUEL DIVERSITY AND CHOICE POLICIES										
1. Require hybrid vehicles to be grid-connectable, using standardized hardware	L		+		+		+	-		+
2. Fund RDD&C of alternative fuel vehicles through \$0.01 fuels tax, windfall sales tax revenues, fee on sale of ICEs, or a petroleum depletion fee on oil companies.	L		+	+	+	+	+			+
3. Establish a bulk purchase program for alternative fuel technologies to achieve competitive price and performance	L		+		+	+	+			
4. Provide a free home based charging station when purchasing an electric vehicle or grid-connected hybrid	L									
5. Develop a State master plan for AFV Infrastructure	M		+		+	+	+			+
6. Complete a State clean transportation corridor for natural gas (compressed and liquefied) vehicles, connecting major population centers	S									
7. Provide State incentives for purchase of AFVs (light, medium and heavy duty)	L		+		+			-		+

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8. Adopt criteria for State fleet acquisition of AFVs (light, medium and heavy duty)	S									
9. Modify CAFE so only dedicated AFVs qualify for fuel economy credits.	M		+		+	+	+			
10. Require accessways built in for all new development in anticipation of EV chargers or natural gas home refueling.	L		+		+	+	+			+
11. Implement transportation demand measures (e.g., congestion pricing, teleworking, pay-at-the-pump, ride sharing,)	M		+		+	+	+	+	+	
12. Develop and adopt ways to use e-communication to reduce transportation energy demand	S									
13. Adopt standards for EV charge connectors and charger efficiency	M				+	+	+			+
14. Partner with private industry to make heavy and light duty fuel cell vehicles commercially available in the short- to mid-term period	L				+	+	+			
15. Explore, develop and adopt policies that allow battery electric and fuel cell vehicles to be used for distributed electricity generation	L				+	+	+			+
16. Conduct public information program to address safety issues regarding hydrogen infrastructure	L				+	+	+	+	+	+
17. Charge a vehicle acquisition fee for vehicles with multi-fuel capability but without adequate infrastructure in place	L									

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18. Adopt a state code requiring below ground fuel equipment to be alcohol tolerant	M									
19. Require service stations to have at least one alcohol fuel tolerant dispensing system	M									
20. At major freeway interchanges, require the placement of at least one system capable of providing natural gas, hydrogen, or electricity recharging or refueling	L									
D. ENVIRONMENTAL QUALITY, SUSTAINABILITY, and INTERNALIZING EXTERNALITIES POLICIES										
1. In an integrated State transportation strategy, establish a public information and outreach program on fuel supply and demand issues, advanced transportation technologies and opportunities to address transportation energy problems	M L		+	+	+	+	+	+	?	+

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2. Create a funding program to assist regional and local governments to implement growth plans that result in reduced per capita transportation energy consumption, including the sponsorship of a statewide land use planning competition that analyzes trends in land use development and projects what CA will look like in 10 years, presenting alternative development paths that offer reduced energy consumption outcomes	M		+	+	+	+	+	+	+	+
3. Establish a revenue neutral fee-bate program that rewards (through lower state fees) and penalizes (through higher state fees) purchasers of new vehicles for the CO ₂ impact of their vehicle purchase	M		+	+	+	+	+	+		+
4. Establish a system of incentives (monetary or otherwise) that rewards purchasers of highly efficient vehicles	M		+	+		+	+	+		+
5. Assist in implementing ARB's ZEV mandate	M		+	+	+	+	+	+		+
6. Assist regional and local government efforts to deploy clean AFVs and establish related infrastructure	M		+	+	+	+	+			+
7. Eliminate parking fees for AFVs	M		+	+	+	?	+	-	-	+
8. Assist DOE in efforts to introduce clean AFVs	M		+	+	+	+	+			+
9. Develop and adopt a 50-state standard for Clean Fuel Specifications	S	+	+		?	?	+			

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10. Develop and adopt incentives to expand production of vehicle batteries for broad applications, such as in photovoltaic and uninterruptible power supply applications	M		+	+	+	+	+			+
11. Develop a State Strategic Transportation Plan that integrates energy, land use, congestion mitigation, environmental protection, public health and infrastructure policies over 5-, 12-, and 20-year planning periods	M		+	+	+	+	+	+	+	+
12. Sponsor forums for dialogue on transportation issues to develop greater stakeholder understanding and collaboration on issue strategies	M		?	?	?	?	?	?	?	+
13. Develop and adopt a program to provide clean AFVs or energy efficient access and reduce transit fees to increase public transit use	M		+	+	+	?	+	?		
14. Use access to HOV Lanes to encourage high efficiency vehicle use	M		+	+		+		+	?	+
15. Develop and implement pricing policies to reduce travel and energy demand; e.g., increase fuel taxes, a parking fee structure to reduce single occupancy vehicle use or increase efficient vehicle use, congestion fee for time-of-day use, levy a VMT tax, implement pay-at-the-pump insurance, levy a carbon tax on fuels	M		+	+		+	+	+		+

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16. Develop and adopt a renewable fuels standard for motor fuels	M	-	-	+	?	?	?			
17. Mandate that employers adopt employee benefit packages that link compensation or assistance with home acquisition to distance between work site and home; short distances result in greater compensation or assistance.	M		+	+		+	+	+	+	+